



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/502,069	12/09/2004	Olle Korsgren	ASZD-P01-555	3992

28120 7590 07/01/2005

FISH & NEAVE IP GROUP
ROPES & GRAY LLP
ONE INTERNATIONAL PLACE
BOSTON, MA 02110-2624

EXAMINER

GUDIBANDE, SATYANARAYAN R

ART UNIT	PAPER NUMBER
----------	--------------

1654

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/502,069

Applicant(s)

KORSGREN ET AL.

Examiner

Satyanarayana R. Gudibande

Art Unit

1654

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-77 is/are pending in the application.
- 4a) Of the above claim(s) 39-43 and 58-62 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 44-57 and 63-67 is/are allowed.
- 6) ☒ Claim(s) 68-77 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/12/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Pursuant to Office Action mailed May 18, 2005, applicants cancelled the original claims 1-38 and replaced with claims 39-77.

Applicant timely traversed the restriction (election) requirement in the reply filed on June 13, 2005. Applicants elected group III, claims 44-57, drawn to a method of transplantation of cells, with traverse. Applicants argue that the groups share the special technical feature that the drug melagatran may be used to prevent the symptom of instant blood mediated inflammatory reaction (IBMIR). This argument is not persuasive because the special technical feature of the elected group III is considered to be method of transplantation of cells including administration of melagatran. Claims 39-43 and 58-62 do not include a transplantation step and therefore do not share a special technical feature with the elected group. Note that the administration of melagatran per se was known in the art as stated in previous office action. Claims 39-43 and 58-62 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 68-70 and 72-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shapiro AM., et al., (N. Engl. J. Med., 2000, 343, 230-8) in view of US patent 6,683,054 issued to Ian Kirk.

Claims 68-70 and 72-77 are drawn to a kit comprising a) melagatran, or a pharmaceutically acceptable prodrug thereof, and b) cells for administration in conjunction with each other. The cells may be insulin producing cells (claim 69), islet of Langerhans (claim 70) or insulin-producing stem cells (claim 71).

Shapiro, et al., teaches use of anticoagulant (heparin) in a process for transplanting islet cells (Page 231, second column, paragraph 3). Shapiro, et al do not teach using melagatran as an anticoagulant agent. Kirk teaches using melagatran as an anticoagulant and as an anti-inflammatory agent. Kirk also teaches the prodrugs of melagatran recited in claims 72-75. For the one skilled in the art, it would have been obvious to substitute melagatran for heparin in the process of Shapiro, et al., since they are functional equivalents and melagatran has the added benefit of being an anti-inflammatory agent. It would have been obvious supply the cells and the anticoagulant in the form of a kit for the transplantation of the cells.

Art Unit: 1654

Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shapiro in view of Kirk as applied to claims 68-70 and 72-77 above and further in view of Soria, et al., (Diabetes, 2000, 49, 1-6). Shapiro in view of Kirk teach a kit comprising cells and melagatran. Shapiro in view of Kirk do not teach a kit wherein the cells are stem cells. Soria, et al., teach use of stem cells for the treatment of diabetes in mice. It would have been obvious to put the stem cells in the kit, since Soria, et al., shows stem cells can be used in the method of Shapiro, et al.

Thus the kit as described in claims 68-77 as a whole is clearly a prima facie obvious to one skilled in the art at the time of the invention to combine the cells and anticoagulant or anti-inflammatory agent in the form of a kit.

Therefore claims 68-77 are rejected under 35 U.S.C. 103(a) which forms the basis for all obviousness rejections.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

Claims 44-57 drawn to method of transplantation of cells in conjunction with administration of melagatran, and claims 63-67 drawn to method of treatment of instant blood mediated inflammatory reaction (IBMIR) are allowable. In the absence of an in vivo study to infer the effectiveness of the inhibition of thrombin by melagatran to overcome the blood mediated inflammatory reaction (IBMIR), examiner applied the available prior art (Bennet, W., et al., 1999, Diabetes, 48, 1907-14). Bennet, et al., compared the in vitro study with human islets using tubing loop model (in vitro islet perfusion system) with an in vivo study with adult porcine islets in piglets. The study found morphologically similar changes in islets after intraportal pig-

Art Unit: 1654

to-pig transplantation, and in islets perfused in vitro in tubing loop model. Therefore, in light of the comparative study of Bennet, et al., it was concluded that the use of melagatran is effective in treatment of instant blood mediated inflammatory reaction (IBMIR). While Kirk teaches that melagatran is an anti-inflammatory agent, there is no suggestion that it would inhibit IBMIR or that it should be used in conjunction with transplantation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

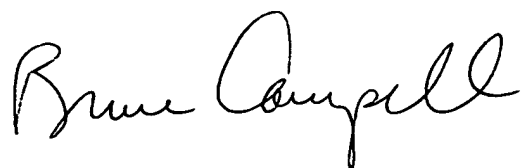
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satyanarayana R. Gudibande whose telephone number is 571-272-8146. The examiner can normally be reached on M-F 8-4.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campbell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 1654

srg

A handwritten signature in black ink, reading "Bruce Campbell". The signature is written in a cursive style with a large, looped "C" at the end.

**BRUCE R. CAMPBELL, PH.D
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600**